

# *Gulf Cooperation Council*

## 👉 EDICT OF GOVERNMENT 👈

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GSO 647 (2011) (English): MULTI-PURPOSE VEHICLES,  
TRUCKS, BUSES AND TRAILERS TYRES PART 3: GENERAL  
REQUIREMENTS (Draft Standard)



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# هيئة التقييس لدول مجلس التعاون لدول الخليج العربية GCC STANDARDIZATION ORGANIZATION (GSO)

مشروع : نهائي

GSO 02/FDS/647:2011

إطارات السيارات متعددة الأغراض والشاحنات  
والحافلات والمقطورات  
الجزء الثالث: المتطلبات العامة

## MULTI-PURPOSE VEHICLES, TRUCKS, BUSES AND TRAILERS TYRES PART 3: GENERAL REQUIREMENTS

إعداد

اللجنة الفنية الفرعية الخليجية لقطاع مواصفات المركبات والإطارات

هذه الوثيقة مشروع لمواصفة قياسية خليجية تم توزيعها لإبداء الرأي والملاحظات بشأنها، لذلك فإنها عرضة للتغيير والتبديل، ولا يجوز الرجوع إليها كمواصفة قياسية خليجية إلا بعد اعتمادها من مجلس إدارة الهيئة.

## تقديم

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية هيئة إقليمية تضم في عضويتها الأجهزة الوطنية للمواصفات والمقاييس في دول الخليج العربية ، ومن مهام الهيئة إعداد المواصفات القياسية الخليجية بواسطة لجان فنية متخصصة .

وقد قامت هيئة التقييس لدول مجلس التعاون لدول الخليج العربية ضمن برنامج عمل اللجنة الفنية رقم ٢- ١ " للجنة الفنية الخليجية لقطاع مواصفات المركبات والإطارات " بتحديث المواصفة القياسية الخليجية رقم ٦٤٧ / ١٩٩٦م ، " إطارات السيارات متعددة الأغراض والشاحنات والحافلات والمقطورات الجزء الثالث: المتطلبات العامة " .وقامت سلطنة عمان بإعداد مشروع هذه المواصفة.

وقد اعتمدت هذه المواصفة كـ(مواصفة قياسية / لائحة فنية) خليجية في اجتماع مجلس إدارة الهيئة رقم ( / ) ، الذي عقد بتاريخ / / هـ ، الموافق / / م.على أن تلغى المواصفة رقم ( / ) وتحل محلها.

## Foreword

GCC Standardization Organization (GSO) is a regional Organization which consists of the National Standards Bodies of GCC member States. One of GSO main functions is to issue Gulf Standards /Technical regulations through specialized technical committees (TCs).

GSO through the technical program of committee TC No. 2-1 "The Gulf technical Subcommittee for vehicles and tyres standards" has updated the GSO Standard No. : 647/١٩٩٦ "multi-purpose vehicles, trucks, Buses and trailers tyres Part 3: general requirements". The Draft Standard has been prepared by Sultanate of Oman.

This standard has been approved as a Gulf (Standard / Technical Regulation) by GSO Board of Directors in its meeting No.( ),held on / / H , / / G. The approved standard will replace and supersede the GSO standard No. ( / ).

**MULTI-PURPOSE VEHICLES, TRUCKS,  
BUSES AND TRAILERS TYRES  
PART 3: GENERAL REQUIREMENTS**

**1. SCOPE AND FIELD OF APPLICATION**

This standard is concerned with general requirements for new tyres for multi-purpose vehicles, Light Trucks, Heavy Trucks, Buses and trailers. This standard is not applicable for tyre types identified by speed category less than 80km/h. It is also not applicable to motor cycle, road equipment or agricultural equipment tyres.

**2. COMPLEMENTARY REFERENCES**

- 2.1 GS 645/2009 "Multi-purpose Vehicles, Trucks, Buses and Trailers Tyres – Part 1 : Nomenclature, Designation, Marking, Dimensions, Load Capacity and Inflation Pressure ".
- 2.2 GS 646/2009 "Multi-purpose Vehicles, Trucks, Buses and Trailers Tyres – Part 2 : Method of Test"

**3. DEFINITIONS**

Refer to the definitions stated in the Gulf standard mentioned in 2.1

**4. REQUIREMENTS**

The following shall be met in the tyres of multi-purpose vehicles, trucks, buses and trailers.

- 4.1 Appearance
  - 4.1.1 The tyre shall exhibit no visual evidence of tread, sidewall, ply, cord, inner liner, or bead separation, chunking, broken cords, cracking or open splices.
  - 4.1.2 The tread shall be even and no exposed tyre ply cord shall be visible.
- 4.2 Strength

The breaking energy of tyres shall not be less than the values specified in Table1.when tested in accordance with the GSO Standard mentioned in item 2.2.
- 4.3 Endurance

- 4.3.1 No evidence of tread, side wall, ply, cord, inner liner, or bead separation, tread chunking, broken cord, cracking or open splices when the tyre subjected to the endurance test.
- 4.3.2 The outer diameter of the tyre, measured six hours after the endurance test, shall not differ by more than 3.5 percent from the outer diameter as measured before the test.
- 4.3.3 The tyre pressure at the end of the test shall be not less than the initial pressure specified.
- 4.4 Treadwear indicators
  - 4.4.1 Each tyre shall have at least six traverse rows of treadwear indicators, equally spaced around the circumference of the tyre and situated in the principal grooves of the tread.
  - 4.4.2 Tyres designed for mounting on rims of nominal rim diameter code 12 or less, not less than four traverse rows of treadwear indicators is acceptable.
- 4.5 Speed Symbol
  - 4.5.1 The speed symbol shall be marked on the tyre, and it shall be as indicated in GSO standard mentioned in item 2.1.
  - 4.5.2 The tyres fitted on MPV shall be with speed symbol 'S' or higher.
  - 4.5.3 The tyres fitted on buses shall be with speed symbol 'M' or higher
  - 4.5.4 The tyres fitted on Light Truck, marked with prefix 'LT' or suffix 'C', shall be with speed symbol 'L' or higher
  - 4.5.5 The tyres fitted on the heavy truck shall be with speed symbol 'k' or higher
  - 4.5.6 The tyres of the category 'special use' (see GSO 645 3.2.3.3) fitted on Light and heavy Trucks shall be with speed symbol G or higher

## **5. MARKING**

The marking of tyres shall be in accordance with the GSO standard mentioned in item 2.1

## **6. TESTING**

### **6.1 Sampling**

Two tyres with identical characteristics, e.g. size designation and service description or maximum load rating and speed capability, shall comprise a test sample.

- a) One tyre shall be used for the measurement of strength.
- b) A second tyre shall be used for the endurance test.

Each test sample shall conform to the requirements specified in 6.3.1 and 6.3.2.

## **6.2 Methods of test**

The tests shall be carried out in accordance with GSO Standard mentioned in item 2.2.

## **6.3 Tests**

The following tests shall be carried out on samples taken in accordance with item 6. 1.

6.3.1 Visual inspection.

6.3.2 Dimensions.

6.3.3 Strength

6.3.4 Endurance.

## **7. CRITERIA OF TECHNICAL CONFORMITY**

7.1 Two months at least before dispatching the consignment of any type of tyres, the manufacturer shall send to the Standardization Organization for GCC (GSO) a conformity certificate – in his formal paper – in English and/or Arabic languages, certifying that this type of tyres meets the requirements of GSO technical regulation for tyres. The certificate shall include the following (Appendix "A" shows an example of this certificate):

7.1.1 Designation of dimensions, construction, nominal tyre rim diameter and speed symbol

7.1.2 Trade name, trade mark, brand name or manufacturer's name..

7.1.3 Country of production

7.1.4 Regroovable (if designed)

7.1.5 Tube type or tubeless

7.1.6 The production period which shall not be more than one full year.

- 7.1.7 A guarantee valid for at least one year.
- 7.2 The results of tests carried out shall be supplied to GSO.
- 7.3 The period from the date of manufacture till the date of sale shall not exceed 24 months for tyres of buses and light trucks, and 30 months for heavy duty truck tyres. The dealer or distributor shall give the purchaser a guarantee certificate valid for one year at least as from the date of sale and the guarantee shall be applicable to tyres equipped on new cars .
- 7.4 The approved conformity certificate shall be valid only for one year from the date of approval.
- 7.5 In case of Standardization Organization for GCC (GSO) acceptance of the certificate mentioned in item 7.1, the type of tyres shall be considered acceptable.
- 7.6 In case the certificate is not accepted (because information is incomplete or subject to question), the information may be completed. If not completed or if necessary, substantiated tests, as required by the standard shall be carried out on tyre samples.



**Table (1)**  
**Minimum Static Breaking Energy**

Load range	PR	Breaking energy min.J				
		Rim diameter code $\leq 12$	Rim diameter code 13 and 14 Tube type marked "LT"	Other tyres marked "LT" Tubeless with rim diameter code 13 to 17.5 inclusive	Other tyres	
					Tube type	Tubeless
A	2	68	-	226	-	-
B	4	136	192	294	-	-
C	6	203	271	362	768	576
D	8	271	384	514	893	734
E	10	339	-	576	1 412	972
F	12	407	-	644	1 785	1412
G	14	-	-	712	2 282	1 695
H	16	-	-	768	2 599	2 090
J	18	-	-	-	2 825	2 203
L	20	-	-	-	3 051	-
M	22	-	-	-	3 220	-
N	24	-	-	-	3 390	-

Note: Rayon cord tyres to be 60% of the values shown.

## APPENDIX (A)

**MODEL OF A CERTIFICATE OF CONFORMITY  
FOR MULTI-PURPOSE VEHICLES, TRUCKS  
BUSES AND TRAILERS TYRES**

Name of Manufacturer:

Ref.No :

Country of Production:

Date :

To: GCC Standardization Organization (GSO)

We hereby certify that the tyres manufactured by as:

Type.( Tyre Designation/Size)

Tube/Tubeless :

Bias/Radial :

Speed symbol:

Intended for use in: (multi-purpose vehicles/Light Trucks/Heavy Trucks/Buses/trailers)

Produced in the week No .....Year..... till the end of week No .....of

the year.....will satisfy the GSO Technical Regulation Nos. ....

The production period mentioned in the certificate shall not be more than one full year

**Note:** All tyres are guaranteed for 12 months against manufacturing defects under normal operating conditions and with recommended inflation pressure.

Stamp, name and signature of  
responsible person for the  
Concerned department of  
manufacturer